

Remarks

Claims 1-12 are pending. The Examiner rejects claims 1-12 under 35 U.S.C. 103 as being unpatentable over U.S. Pat. No. 5,955,522 ("Rotzinger et al.") in view of published British patent application 2,301,106 ("GB '106"). The Examiner asserts that Rotzinger discloses stabilized polyolefins prepared over a transition metallocene catalyst using a sterically hindered amine. The Examiner asserts that GB '106 discloses blends of HALS for the stabilization of polyolefins polymerized with a metallocene catalyst. Applicants respectfully traverse this rejection.

The present invention is a composition containing a "metallocene polypropylene" or "metallocene polypropylene copolymer" and a stabilizer mixture comprising,

(A) a selected triazine containing 2,2,6,6-tetramethyl-4-piperidyl derivative and

(B) a selected ester or amide containing a 2,2,6,6-tetramethyl-4-piperidyl group.

Rotzinger discloses a process for the preparation of olefin polymers by polymerization over a transition metallocene catalyst with the addition of at least one phosphorous (III) compound, sterically hindered amine, sterically hindered phenol or acid scavenger, alone or in combination with one another. Rotzinger does not specifically disclose the stabilizer mixture used according to the present invention for the stabilization of "metallocene polypropylene".

The teachings in Rotzinger lack sufficient specificity to lead one to the present invention. For example, a list of hundreds of suitable sterically hindered amines is disclosed on columns 21 to 41. It is mentioned only generically in column 41, lines 43 to 45 that it is also possible to use a mixture of different sterically hindered amines but there is no hint which leads the person skilled in the art to the particular features of the stabilizer mixture used in the present invention.

GB '106 only discloses on page 43, second and fourth paragraph polyolefins, such as polyethylene and polypropylene that may be obtained by catalytic polymerization. "Metallocene catalysts" are also mentioned in the last line of paragraph 4. Thus, "metallocene polypropylene" is only generically described in a list of hundreds of other polymers, which are disclosed, on pages 43 to 47 of this reference. None of the specific working examples describe

the stabilization of "metallocene polypropylene". GB '106 does not provide the requisite teaching lacking in Rotzinger to arrive at the compositions according to the present invention.

Assuming that the references could be combined to formulate a prima-facie showing of obviousness, Applicants enclose a Declaration by Dr. Gugumus that compares a conventional polypropylene stabilized with the stabilizer mixture used in the present invention, with a "metallocene polypropylene" stabilized using the same stabilizer mixture. The test results are repeated below from the Declaration:

Table 1:

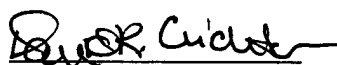
Stabilizer mixture	T _{0.1} in hours *)	
	Conventional Polypropylene	"Metallocene Polypropylene"
0.05 % of the compound (A-I-1-a) and 0.05 % of the compound (B-I-2-a)	2200	2600

*) High values are desirable.

The stabilized "metallocene polypropylene" is less vulnerable to deterioration induced by light than a conventional polypropylene. Such a distinct improvement in performance arising from a change in the polymerization process could not have been expected and clearly supports the patentability of the present claims.

Applicants submit that the present application is now in condition for allowance.

Respectfully submitted,



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